

TWR-77414  
ECS SS12948



**SPACE SHUTTLE PROGRAM**  
Space Shuttle Projects Office (MSFC)  
NASA Marshall Space Flight Center, Huntsville, Alabama



# *Reusable Solid Rocket Motor* **STS-107 Flight Readiness Review/CoFR**

*Motor Set RSRM-88*

**9 January 2003**

*Presented by Terry Boardman*



**ATK THIOKOL PROPULSION**

*P.O. Box 707, Brigham City, UT 84302-0707 (435) 863-3511*



SPACE SHUTTLE PROGRAM  
Space Shuttle Projects Office (MSFC)  
NASA Marshall Space Flight Center, Huntsville, Alabama



STS-107 (RSRM-88)

# Agenda

---

## Flight Readiness Review/CoFR

- 1.0 Previous Flight Assessment—STS-113
- 2.0 Certification Status—**No Constraints**
- 3.0 Changes Since Previous Flight—**None**
- 4.0 Configuration Inspection
  - 4.1 As-Built Versus As-Designed, Hardware, and Closeout Photo Review Status—**No Issues**
  - 4.2 Hardware Changeouts Since ET/SRB Mate Review—**None**
- 5.0 SMRB Nonconformances—**None**
- 6.0 Technical Issues/Special Topics—**None**
- 7.0 Readiness Assessment

Backup      LCC and Contingency Temperatures for STS-107



ATK THIOKOL  
PROPULSION



SPACE SHUTTLE PROGRAM  
Space Shuttle Projects Office (MSFC)  
NASA Marshall Space Flight Center, Huntsville, Alabama



STS-107 (RSRM-88)

1.0-1

# Previous Flight Assessment—STS-113

## Disassembly Evaluation Summary—Status of Disassembly Activity

KSC Operations	LH RSRM	RH RSRM	Remarks
Initial LH/RH SRB viewing *	Complete	Complete	
SRB/RSRM walkaround assessment *	Complete	Complete	
Demate/evaluate aft exit cone (AEC) *	Complete	Complete	
Remove/evaluate S&A and OPTs *	Complete	Complete	
Remove/evaluate nozzle *	Complete	Complete	PFAR 360W086B-01, Plug Washer in RH Aft Dome 120-Deg Radial Bolthole PFAR 360W086B-02, Flashing on Nozzle-to-Case Joint Packing-With-Retainer NO FLIGHT CONCERNS IDENTIFIED
Remove/evaluate stiffener rings/stubs	Complete	Complete	
Remove/evaluate igniter *	Complete	Complete	
Demate/evaluate field joints/evaluate insulation *	Complete	Complete	
Utah Operations			
Disassemble/evaluate nozzle (joint No. 4 and 5) *	Complete	Complete	
Disassemble/evaluate nozzle (joint No. 2 and 3) *	Complete	Complete	
Disassemble/evaluate S&A *	Complete	Complete	
Washout nozzle phenolics	Jan 2003	Jan 2003	
Washout nozzle AEC phenolics	Jan 2003	Jan 2003	
Measure/evaluate aft dome insulation	Mar 2003	Mar 2003	

\* RSRM Project committed to complete prior to next launch

- No constraints to STS-107 flight



ATK THIOKOL  
PROPULSION

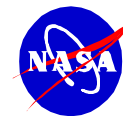
Terry Boardman

088-FRR/CoFR

2



**ATK THIOKOL  
PROPULSION**



## *STS–107 Readiness Assessment*

*Pending satisfactory completion of normal  
operations flow (per OMRSD), the RSRM hardware  
is ready to support flight for mission*

*STS–107*

*9 January 2003*

*/s/ T. A. Boardman*

---

*T. A. Boardman  
RSRM Deputy & Chief Engineer  
Thiokol*

*/s/ E. C. Ralston*

---

*E. C. Ralston  
Vice President  
RSRM Program Management  
Thiokol*



*/s/ R. K. Burt*

---

*R. K. Burt  
Chief Engineer, RSRM Project  
NASA, MSFC*

*/s/ J. A. Singer*

---

*J. A. Singer  
Manager  
RSRM Project Office  
NASA, MSFC*



SPACE SHUTTLE PROGRAM  
Space Shuttle Projects Office (MSFC)  
NASA Marshall Space Flight Center, Huntsville, Alabama

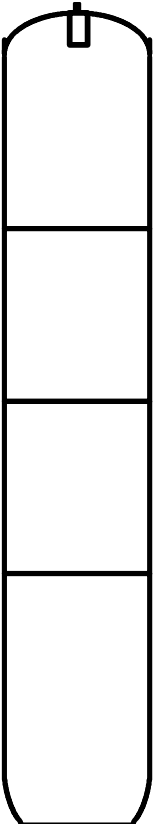


STS-107 (RSRM-88)

Backup-1

# Current Flight Predictions

## LCC and Contingency Temperatures for STS-107

	<u>Heater Location</u>	<u>LCC</u>	<u>Minimum Allowable Sensor Temperature*</u>	
			<u>LH</u>	<u>RH</u>
	Igniter	74°F	72°F	72°F
	Forward Field Joint	86°F	68°F	70°F
	Center Field Joint	86°F	70°F	73°F
	Aft Field Joint	86°F	67°F	69°F
	Nozzle-to-Case Joint	75°F	62°F	66°F

\*LCC contingency temperature in the event of heater failure

Note: Calculation includes all standard repair conditions



ATK THIOKOL  
PROPULSION

Terry Boardman

088-FRR/CoFR

Backup-1